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METHOD FOR SYNTHESIZING DIAMOND
FILM

Abstract

PURPOSE: To carry out vapor growth of a diamond film without performing normally practiced scratching treatment and similarly provide vapor growth of a heteroepitaxially grown diamond film and a highly oriented diamond film.

CONSTITUTION: Diamond is synthesized by a vapor method. The aforementioned method is characterized in that a metallic crystal or a metallic carbide crystal is used as a substrate and passed through the following process. The process for forming monoatomic-layer graphite on the substrate surface and then reacting the resultant surface with fluorine gas or the process for epitaxially growing the monoatomic-layer graphite on the substrate surface and subsequently reacting the above-mentioned surface with fluorine.

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